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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

33rd meeting
Strasbourg, 3-6 December 2013

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Complaint in Stand-by

MARSUPELLA PROFUNDA THREATENED BY A WASTE BURN INCINERATOR AT ROSTOWRACK FARM ST DENNIS (UNITED KINGDOM)

REPORT BY THE COMPLAINANT

- Updated August 2013 -

Document prepared by
Mr Kenneth H. Rickard, Cornwall Waste Forum St Dennis Branch, United Kingdom

***MARSUPELLA PROFUNDA* THREATENED BY A WASTE BURN INCINERATOR AT ROSTOWRACK FARM ST DENNIS,**

UNITED KINDGOM

Report by the complainant

- Updated August 2013 -

Response to reply by Dave Wooton of DEFRA to the Bern Convention Complaint by CWFSDB.

Paragraphs 1 & 2 of Mr Wooton's reply are correct and require no comment

3) Mr. Wooton refers to a Community consultation; (it took place at Kingsley Village Conference Centre on 9th. September 2010), and suggests that this was extensive and was a two way process. The above meeting was the *only* consultation to consider the findings of the permit. The document to be discussed (The Permit Decision Document), consisted of over two hundred pages (see link in Paragraph 4), and was only given to community delegates as they arrived, meaning that had no chance to read it. The Environment Agency hoped to be able to deal with the matter quickly, (the Headquarters Press Officer stated at the outset that the matter would be concluded in three hours). In actual fact the conference lasted over eight hours. During that time, the community representative raised a large number of points. These were noted by an EA officer who wrote them up on a flip chart. There were about ten points to a page, and when the day was finished there were 16 pages of flip chart pinned to the wall. None of the points raised were ever answered. We were told that there would be a consultation about the points raised at a later date. When no further consultation occurred, the local EA manager was e-mailed. She replied that it would not now be EA policy to discuss the points and the decisions made on them would be covered in an annex to the Decision Document (see link). However, this annex only contains a few of the points raised at the consultation and includes individual letters from the public and points raised by other agencies.

4) Mr. Wooton was not present at the consultation, he has not been concerned with writing the report, and is not, as far as I know, an expert on Liverworts, he is simply a messenger who has been given the same old material to deliver. You will note that he says that Critical Loads and Levels were considered. This alone should ring alarm bells because Marsupella profunda is not subject to any variation in the Critical Load, as it does not absorb nutrient via its roots, as it has none. Therefore there is no point in considering Critical Load for this plant; this point is made by Dr. Ron Porley (species expert on M.profunda) on page 79 (first paragraph) of the Decision Document (see link).

Mr. Wooton refers to Table 5 on page 71 of the decision document to show that Critical Level was taken into account when considering the effect on M. profunda. It is interesting to note as a side issue that the bottom part of this table (the part referring to St. Austell Clay Pits) was missing from the copies of the Decision Document given to the delegates at the consultation due to a misprint. In any case, it does not give us any relevant information. It gives the Critical Load in column 1, the process contribution in column 2 and "PC as % of CL" in Column 3. As no figure is given for Critical Level, CL must be Critical Load which emphasises our point that no calculation of Critical Level has been given for the priority species for this habitat.

5) Here Mr. Wooton states that Critical Levels for ammonia, nitrogen oxides and hydrogen fluoride were reviewed but were considered to be insignificant. This is meaningless unless you know what the Critical Level tolerance is of the priority species, and can see the calculation by which the lack of effect has been determined. As there are no Critical Level Values available for M. profunda, this exercise is impossible. The rest of this paragraph about H1 levels is incomprehensible.

6) Mr. Wooton admits that there is no Critical Level for M. profunda. This should be the end of the story, because if it is impossible to measure the effect of the deposition of pollutants form air directly

onto the thallus of M. profunda, it follows that it is impossible to state that there will not be a significant effect on the plant. Regarding how Mr. Wooton says it is possible to solve this conundrum; I refer you again to Dr. Porley's comments on page 79 of the Decision Document. In addition I will add my own description of the habitat of M. profunda at St. Austell Clay Pits SAC. M. profunda is growing on outcrops of crumbling granite where the underlying strata of Kaolinite (aluminium silicate) are exposed. The "rosette" like branched thalli of the individual plants are packed closely together. Other parts of the outcrops are covered with various lichens and algae, so there would be little possibility of acidic splashes from the surroundings. Therefore the habitat comparison to acid grassland is totally wrong. The only kind of habitat for comparison would be APIS/AQMAU readings from a disused China Clay Pit, and there are none.

Again, some "new methods" were used to provide a reading which was "consistently low" with no figures or calculation shown, but this again was only for Critical Load and not Critical Level. Using the figures issued in the original permit, the summation of acid emissions exceeded 1% of Critical Load. In any case alteration to calculations after the Document and Permit were issued, which have not been subjected to even the most basic consultation should not be used. This is not science it is at very best guesswork.

7) The matter of hydrogen fluoride is of great importance. While the modelled emissions of proposed Incinerator might be "deemed to be insignificant" there has been no consideration of the "in combination" effect with the emissions from the existing China Clay dryer and calciner sited a few meters from the Incinerator site. At this stage it might also be prudent to point out that despite EA permits to other operations in the area, the background emission level was recorded by Bureau Veritas (Consultants) at over 300% Critical Load. This calculation was done as part of a "shadow screening" requested by Cornwall Council, (then Cornwall County Council), for a planning inquiry. One of the main waste products from this facility is hydrogen fluoride. When hydrogen fluoride gas encounters moist air it hydrates to hydrofluoric acid, and these emissions should have been considered, and added to total acid deposition

8) The meteorological data obtained from Camborne bears no resemblance to the wind variations at St. Dennis, fifteen miles away. Firstly there are a large number of topographical features between these two places, including St. Agnes Beacon and Carland Cross Hill. The prevailing direction of the wind is different and a better set of figures would have been available from the control tower at the airfield, which used to be RAF St. Mawgan, and is now a Civil Airport (Newquay Airport). Data was also taken at St. Dennis School, but the monitoring equipment was supplied by the permit applicant (Sita) and they have refused to make it public (I wonder why?). The local people are only too aware of the strange weather patterns in the area caused by the mounds of China Clay waste that have been stacked up over one hundred feet high over the past two hundred years. This creates a "climate bowl" in which mist and low cloud can hang for days at a time. There should have been no calculation of emission deposition without taking these features into account.

The fact that Camborne was the best available, should not be used as an excuse.

9) As there is no Critical Level recorded for the priority species M. profunda, a fact admitted by Mr, Wooton, how can it have been considered? Similarly if it cannot have been considered, how can it be insignificant?

Experts in the morphology and physiology of Marsupella profunda working for various nature protection bodies, Drs Porley and Hollyoak (Natural England) and Dr. Paul Redfearn Jnr (Curator Osarks National Park Herbarium), have all stated that they believe there will be a substantial effect on the rarest plant in the UK. They state that without a figure for the Critical Level it is impossible to say that there will not be an effect. According to the Habitats Directive, this means that an Appropriate Assessment is required.

10) Nothing in the response submitted by Mr. Wooton has contradicted anything, which we originally stated in our evidence, and I feel sure that you will apply the precautionary principle.

Rod Toms
Volunteer technical advisor
Cornwall Waste Forum, St. Dennis Branch 29th August 2013.

***MARSUPELLA PROFUNDA* THREATENED BY A WASTE BURN INCINERATOR AT ROSTOWRACK FARM ST DENNIS,**

UNITED KINDGOM

Report by the complainant

Waste company SITA is planning to build a 240000tpa mass burn incinerator at Rostowrack Farm St Dennis within 2 km of a SAC. The site should have been properly screened by an Appropriate Assessment.

Our complaint is that the Environment Agency failed to carry out the screening in the in the correct manner.

The existence of the bryophyte Marsupella profunda (red listed annex II species) on the SAC is our concern. This species exists on only three sites in the UK. All these sites are within 5km (one at about 1km) of the proposed incinerator. These three sites is thought to be 50% of the known world population.

This species absorbs nutrient through its thallus but the EA screened for Critical Load (deposition to soil) which is not relevant since this species has no roots.

The relevant screening should be for Critical Level (pollution in atmosphere). There is no screening level for this so the assessment is flawed. The screening also failed to consider the effects of total acid and only looked at individual acid effect.

We also consider the use of wind data from 25 miles away and inadequate consideration of site specific topology as flawed.

The habitat is listed as a RAMSAR site and a Natura 2000 site (code: UK0030282)

A complaint to the EU Commission is being prepared. A petition to the EU Parliament is also planned.

The total loss or damage to reproductive systems has been listed by Dr. Ron Porley of Natural England in a scoping report to the EA and by Dr David Holyoak in the EIA for the planning application.

ANNEX I

A Report to SITA UK
ENERGY FROM WASTE PLANT, ST DENNIS
Bryophyte Survey and Assessment
June 2007

Report by: Cornwall Environmental Consultants Ltd
Five Acres Allet Truro Cornwall TR4 9DJ
tel: 01872 245510
fax: 01872 262071
email: enquiries@cec.gb.com
web: www.cec.gb.com

Report: Surveyors:
Compiled by: Dr. D.T. Holyoak Bryophytes: Dr. D.T. Holyoak
Edited by: Steve Adams CEnv. MIEEM
Completed on: 7th June 2007
Approved by Philip Hills (Consultancy Manager):
Approved by Janine Bright (Senior Ecologist):

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CONTENTS

EXECUTIVE SUMMARY

- Cornwall Environmental Consultants (CEC) Ltd was commissioned by SITA in May 2006 to undertake a bryophyte survey and assessment of a proposed energy from waste site at Parkandillick, St Dennis. The study area included a 20km radius from the proposed development site.
- Immediate local impacts on bryophytes due to construction of the proposed Energy from Waste Plant at St Dennis can be disregarded because there are no species of conservation importance at or very close to the site.
- More distant impacts are likely to arise mainly as a result of emission of low levels of atmospheric pollution during operation of the plant. Increased lorry traffic around St Dennis will doubtless also contribute pollution additional to that occurring at present.
- Bryophytes growing within a few kilometers of the proposed Plant include threatened species that are national and international conservation priorities, the populations of *Marsupella profunda* being of particular importance. Because there is no information on susceptibility of the most important species of bryophyte to different atmospheric pollutants, a precautionary principle should be adopted, allowing plans for the Plant to proceed only if extremely low levels of all likely atmospheric pollutants can be assured.

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(…)

4 ECOLOGICAL IMPACTS AND MITIGATION

4.1 Nature of possible threats to bryophytes from the Energy from Waste Plant

Construction of the Plant is certain to involve loss of bryophyte populations at the site and in its immediate vicinity, but there are no bryophytes of conservation importance there, so the losses involved can be disregarded. Greater concern arises because of the possibility of more distant impacts that might arise mainly as a result of emission of low levels of atmospheric pollution during operation of the plant. Increased lorry traffic around St Dennis will doubtless also contribute pollution additional to that occurring at present.

Various atmospheric pollutants are known to affect bryophytes adversely (for reviews see Bates & Farmer 1992, Glime 1992, Greven 1992), including:

- Sulphur Dioxide, which causes acidification (see, e.g., Bates *et al.* 1997);
- Nitrogen compounds which can cause direct toxic effects (Bell *et al.* 1992) in addition to indirect impacts arising because a high-nitrogen environment favours competitive vascular plants such as nettles at the expense of less competitive bryophytes; vehicle emissions are known to raise nitrogen concentrations to potentially harmful levels near roads (Bell *et al.* 1992);
- Ammonia (e.g. Greven 1992, Lee *et al.* 1998, Paulissen *et al.* 2005);
- Ozone (e.g. Lee *et al.* 1998);
- Various heavy metals, especially copper and lead (e.g. Tyler 1990).

There are good theoretical reasons why many other chemical substances including organic compounds may prove toxic to bryophytes, so given the paucity of research, the absence of published data on effects of particular substances cannot be regarded as confirmation that they will not have toxic effects.

Available information emphasises that responses to many pollutants are likely to vary between different bryophyte species. For example, Bates *et al.* (1997) demonstrate that past Sulphur Dioxide pollution in Britain caused catastrophic declines of many epiphytic bryophyte species but actually favoured a few species. Unfortunately, for all species listed in *Appendix 1* (the "important species"

within 20 km of the St Dennis site) there is no detailed experimental information available on toxicity of any of the major pollutants likely to be produced at low levels by the proposed Plant.

Since there is no information on susceptibility of the "important species" of bryophyte to different atmospheric pollutants, a precautionary principle should be adopted, allowing plans for the Plant to proceed only if extremely low levels of all likely atmospheric pollutants can be assured.

4.2 Bryophyte populations of greatest conservation significance near to St Dennis

The greatest risk of damage to bryophyte populations from operation of the proposed Plant may occur under sustained calm atmospheric conditions when any gaseous or particulate pollutants remain close to the Plant, causing higher than usual concentrations to develop. Bryophytes closest to the Plant may then be exposed to the greatest risk of harm. The consequences of any such damage to bryophyte populations can be regarded as most serious if nationally or internationally threatened species are involved, although loss of key elements of Cornish biodiversity should also be avoided.

The worst possible threats therefore involve populations of species that are both conservation priorities and growing close to the St Dennis site. Most significant among these are:

- *Marsupella profunda* (Western Rustwort), probably still occurring north of Treviscoe in small quantity (SW943560) and certainly occurring in and around Great Wheal Prosper Clay Works (SW996587) where it is protected in a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC). This species is protected under Schedule 8 of the WCA; it is an international conservation priority, protected under Appendix 1 of the Bern Convention and a Priority Species within Annex IIb of the EC Habitats & Species Directive; it is also a Priority Species within the UK BAP. As an acidophile of nutrient-poor habitats, it would be vulnerable to increased atmospheric deposition of nitrogen or basic pollutants.
- *Grimmia crinita* has its only modern British record at Treviscoe (SW943561), where it was found in 1999 but not refound. Detailed resurvey has not been possible because the site is on a concrete tank in industrial premises owned by Imerys, with whom access for survey has not been negotiated. The species is being added to the list of UK BAP Priority Species during 2007 and renewed survey work on it is regarded as a priority action. This is a basiphilous species of nutrient-poor habitats; it might be vulnerable to increased atmospheric deposition of nitrogen or acidic pollutants.
- *Adelanthus decipiens* occurs at Roche Rock (SW991596) as one of its two populations in south-western England. This species is of great phytogeographical interest as a liverwort closely restricted to the Atlantic seaboard of Europe, with a Southern Atlantic range. As an acidophile of nutrient-poor rock habitats, it would be vulnerable to increased atmospheric deposition of nitrogen or basic pollutants.

4.3 Conclusions

Bryophytes growing within a few kilometres of the proposed Energy from Waste Plant at St Dennis include threatened species that are national and international conservation priorities. Populations of *Marsupella profunda* are of particular importance. Because there is no information on susceptibility of the most important species of bryophyte to different atmospheric pollutants, a precautionary principle should be adopted, allowing plans for the Plant to proceed only if extremely low levels of all likely atmospheric pollutants can be assured.